

EXISTING BEDS OF THE BIVALVE ANADARA TRAPEZIA Deshayes 1840 IN WESTERNPORT BAY, VICTORIA

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One of the shells to be found in great quantity lying dead on the more sheltered beaches of South-Eastern Australia is that of the Ark *Anadara trapezia*. The shell is thick and trapeziform, with radiating ribs about twenty-six in number, and has a dark brown rather scaly periostracum. The hinge bears a number of small ventral teeth in an unbroken series. Fully matured specimens reach three inches in length.

Although quite common in tidal flats from southern Queensland to New South Wales, in Victoria only a few living specimens have been taken over the past few years. In South Australia it is subfossil, having died out in the Middle Recent times. Therefore, it is interesting to record the location of some quite extensive beds near Rhyll, a small fishing village on Phillip Island, in Westport Bay.

During the year 1956 a regular scrutiny of the tide lines in this locality, where dead valves are found in great quantity, produced one living specimen, and from this evidence and careful questioning of a reliable local fisherman, an attempt was planned to find beds of the *Anadara trapezia* which it was thought could still exist in the bay. The best indication of possible location was a statement by the fisherman that he had felt the contact of heavy shells against his legs when hauling nets on certain parts of the mud flats, and of course this narrowed the search down considerably, as the mud flats in this area cover many square miles and the task of searching them would have been very slow.

Conditions for searching are very difficult, as the mud is thick and black, and varies from a depth of thirty inches to four feet in a matter of yards. At first only a few living specimens were found, but further work resulted in the discovery of the first of the large beds, which appeared to cover about half an acre. Since this observation, much larger beds have been found, and they would cover much larger areas. These molluscs do not appear to keep company with any other molluscs, and they live close together as the dominant species on the beds. Not more than a few inches separate one from the other, the whole bed of them surfaces quite regularly at low tide, but may be as far as 18 inches down in the mud at times.

As the most logical explanation for the sudden disappearance of the *Anadara trapezia* from southern Australian waters would be a sudden variation of temperature, it is well to note how sheltered these beds are from the colder ocean waters, and, although further south than the neighbouring State of South Australia, the waters of this bay are comparatively warm. The depth of this section of Westport is never greater than 2 fathoms, and an average rise and fall of tide from 7 to 8 feet keeps the average temperature over the year at approximately 58 degrees. During the coldest of winter months this does not fall below 54 degrees and reaches 69 degrees at times during the summer period.

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The beds have remained undisturbed for probably over a century, as they are not taken by the local fisherman for bait or any other purpose. There is, however, evidence that aborigines on Phillip Island did take them for food, as some of the cooking middens still show remains of fire-blackened valves. There is not likely to be any interest taken in the *Anadara trapezia* because of the red blood of the animal, which discourages any persons who may have thoughts of taking them for food, as the appearance is not attractive.

The interesting sequel to the location of these beds is that an attempt is at present being made to re-introduce the living mollusc into part of South Australia. According to information available from that State, it is evident that at one time large beds of *Anadara trapezia* flourished at Port Wakefield, near Adelaide (Cotton 1957), and therefore it was decided to make an attempt to transfer some living specimens from Westernport to Adelaide (a distance of some 600 miles). Their passage was carefully arranged, and some 50 living specimens of various size and age were selected and despatched by air to that city, where they arrived less than 24 hours after being taken from the sea at Rhyll. Some of these specimens were handed to the University of Adelaide, and the remainder were placed in the sea in suitable conditions, near Semaphore, in the Gulf St. Vincent, where their career is being watched with interest.

As conditions and water temperatures are similar to those in Westernport Bay, it is hoped that the experiment may be successful; however, it will be some months before any indication can be given as to whether this will be so.



Existing beds of the Bivalve *Anadara trapezia* (Deshayes 1840) in Westernport Bay, Vic.